KAFKA ON KUBERNETES: DOES IT REALLY HAVE TO BE <<THE HARD WAY>>?

JUNE, 2019 / MONTREAL, CA, 2019

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I BUILD HIGHLY SCALABLE

Hello World

APPS

confluent

RAFFLE, YEAH 🚀

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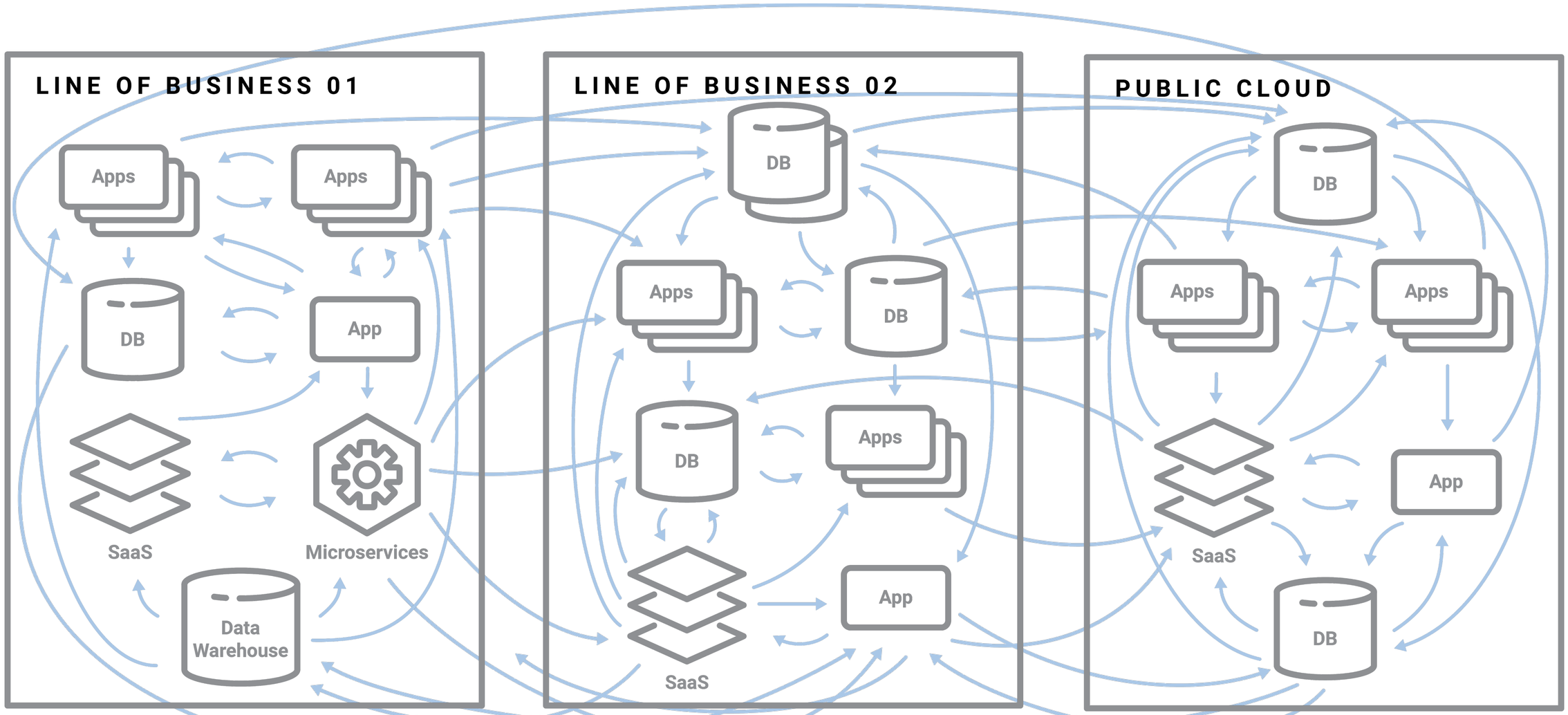
- 📸🖼️👬
- Tag @gamussa
- With #ImCloudNative

A COMPANY IS BUILD ON DATA FLOWS BUT ALL WE HAVE IS DATA STORES

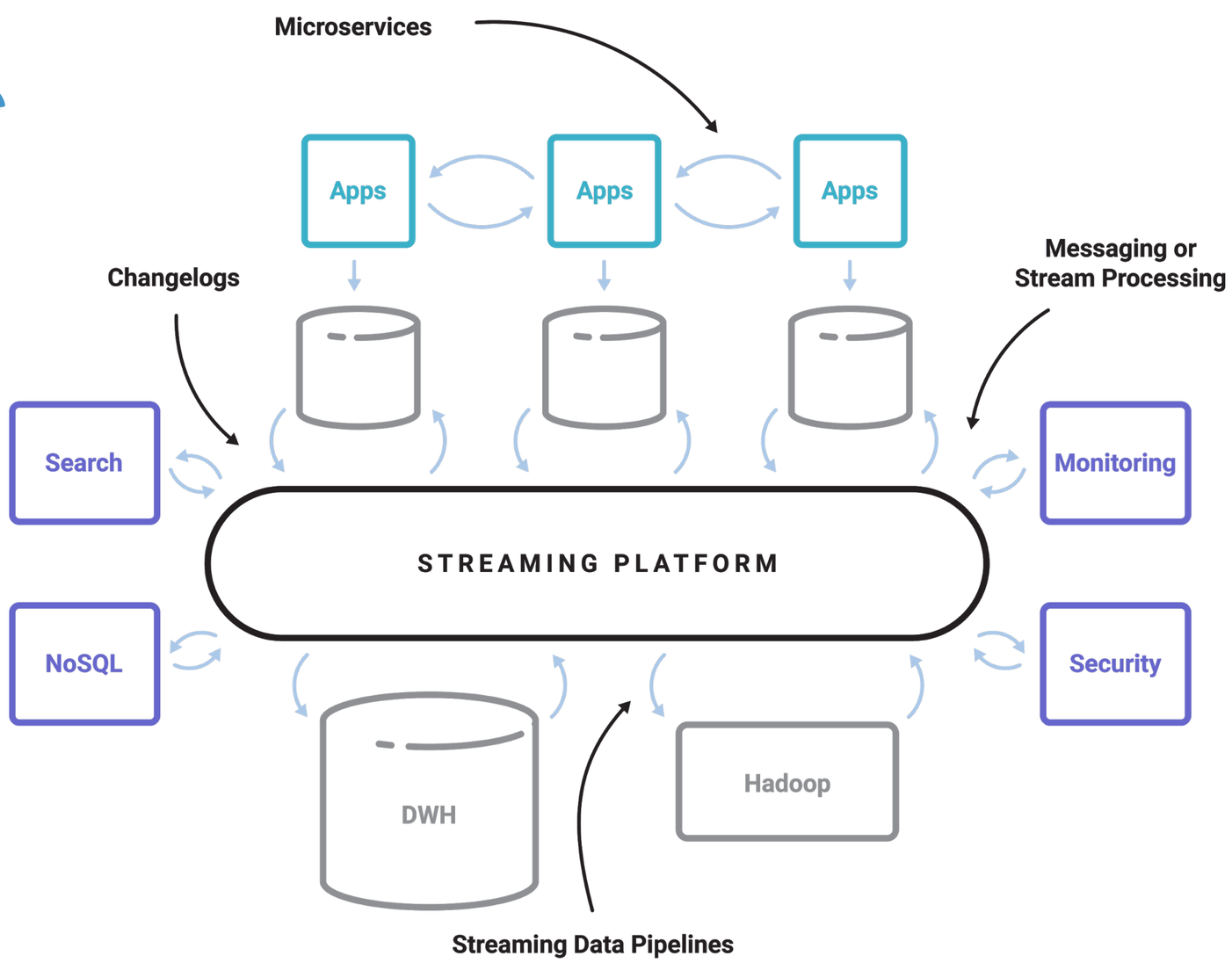
PRE-STREAMING



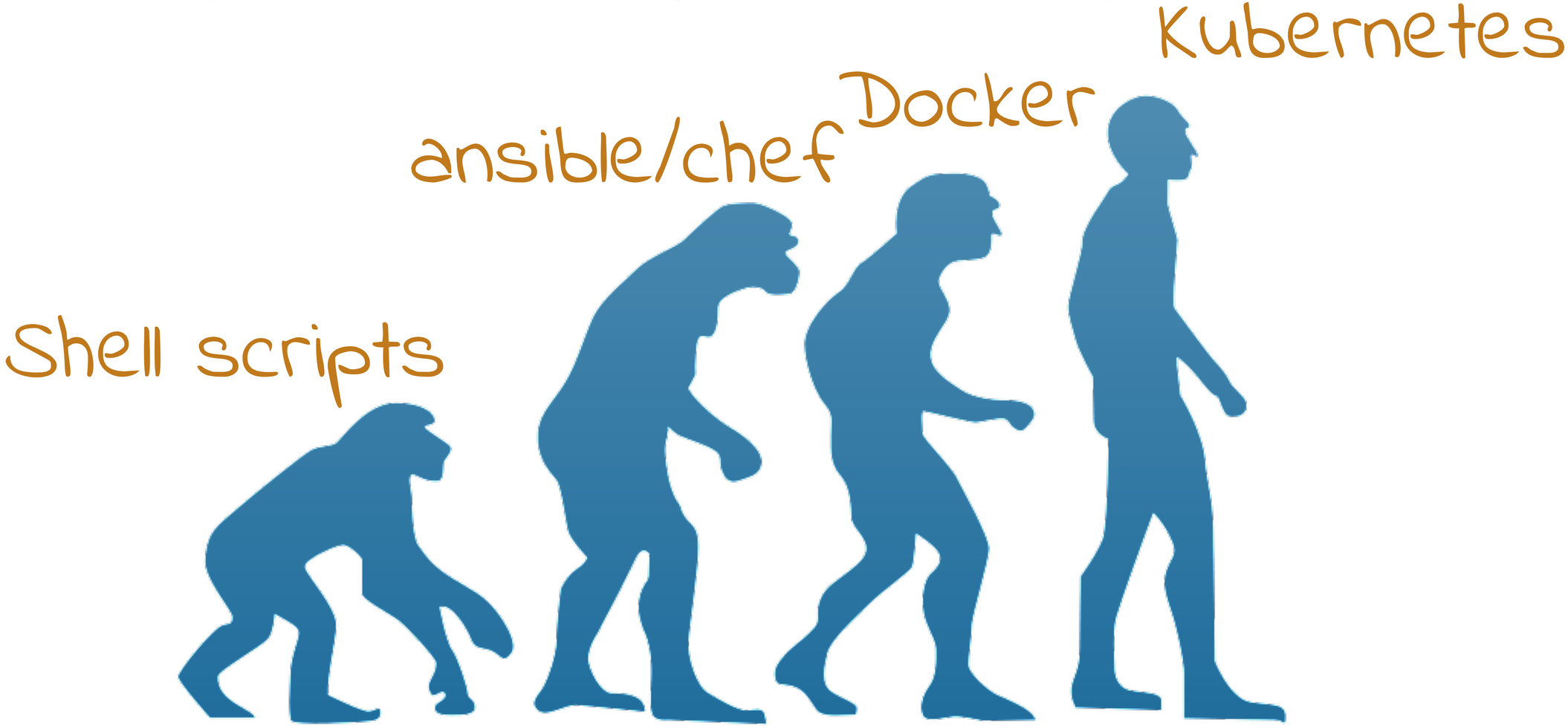
HIVE
PETE SILVIA
hadoop
Map Reduce
APACHE
Spark
STORM
kafka

NEW WORLD STREAMING FIRST

- DB/DWH + Many more distributed data systems
- Monolith -> Microservices
- Batch -> Real-time



EVOLUTION OF #DEVKAFKAOPS



Claes Mogren
@claesmogren

"Kubernetes is of course named after the Greek god of spending money on cloud services." - @QuinnyPig

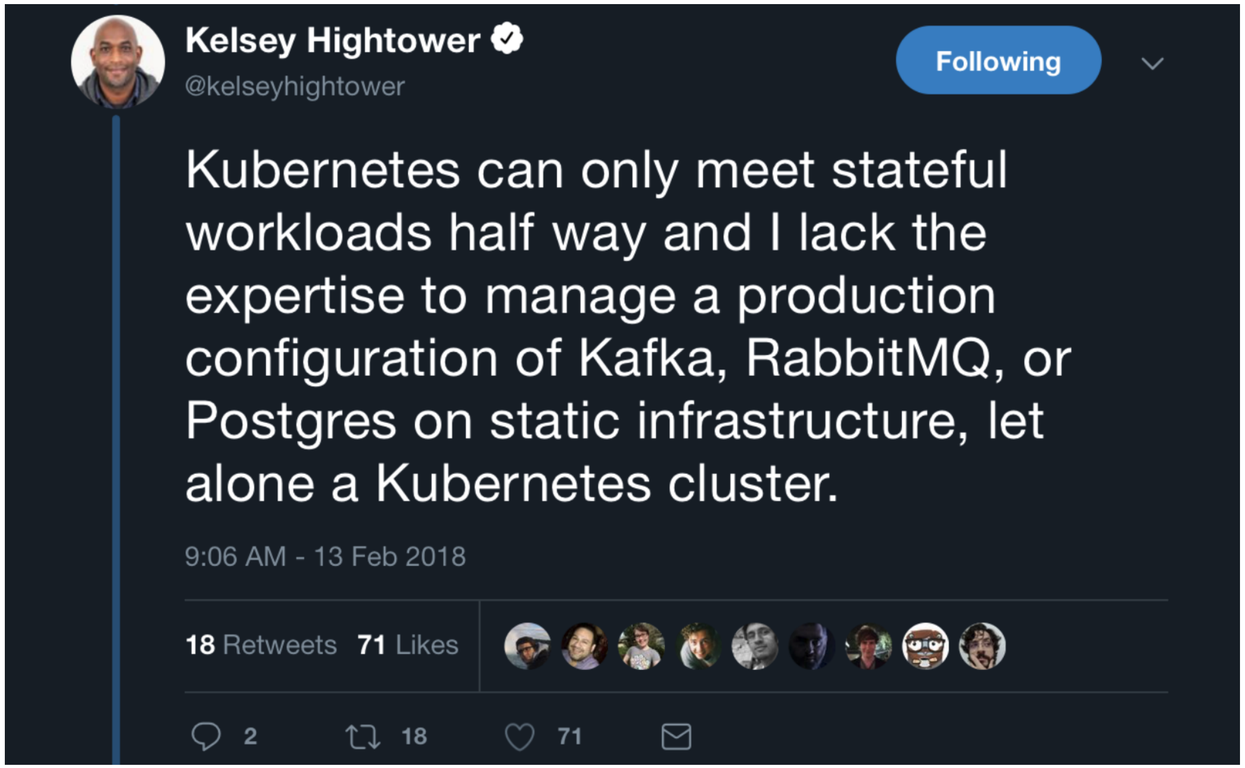
3:54 PM · Mar 20, 2019 · Twitter Web Client

68 Retweets **233** Likes https://twitter.com/claesmogren/status/1108456688175079424

WHO RUN <u>STATELESS</u> WORKLOADS IN KUBERNETES? WHO THINKS IT'S A GOOD IDEA?

WHO RUN <u>STATEFUL</u> WORKLOADS IN KUBERNETES? WHO THINKS IT'S A GOOD IDEA?

KAFKAESQUE WORLD OF KAFKA ON KUBERNETES



WELL, IT'S TRICKY ©

Translating an existing architecture to Kubernetes

External access to brokers and other components

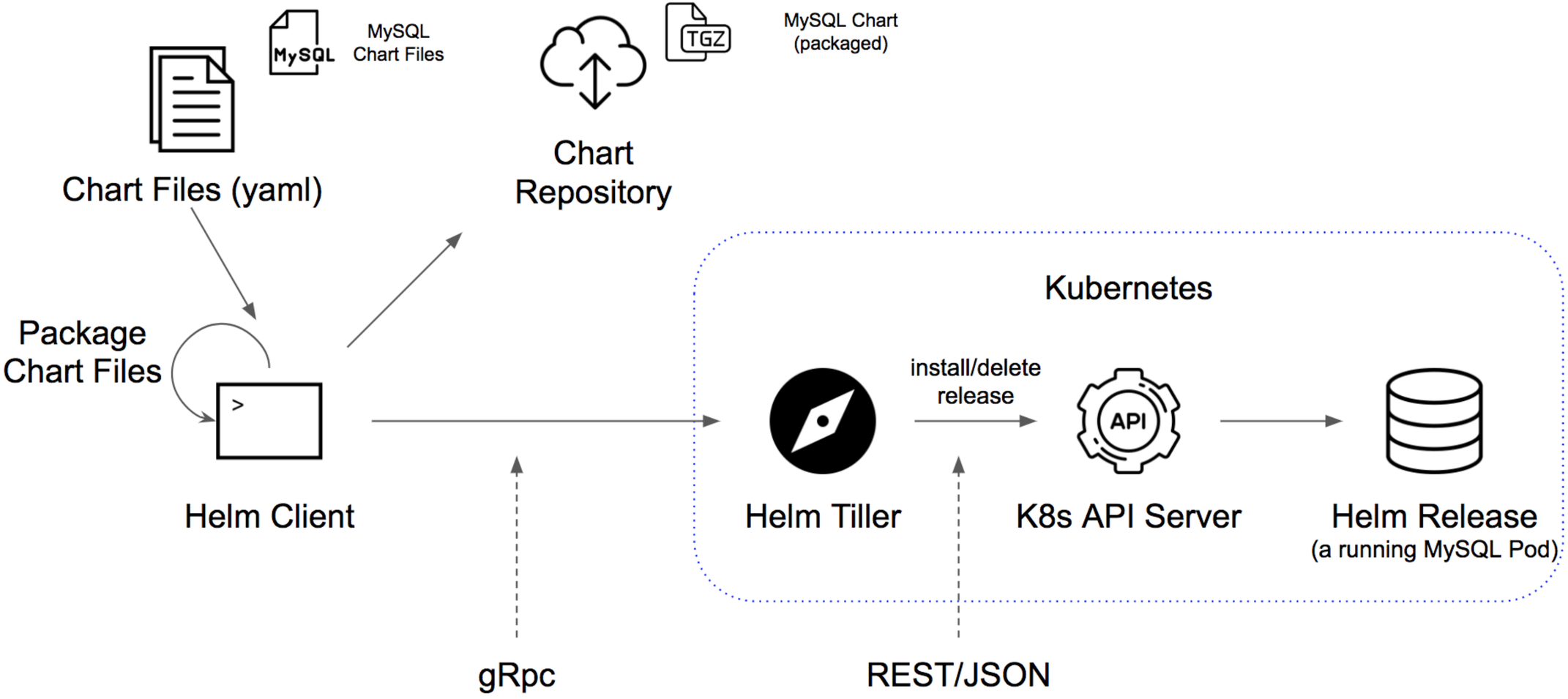
Persistent Storage options on prem and clouds

Security Configuration and Upgrades

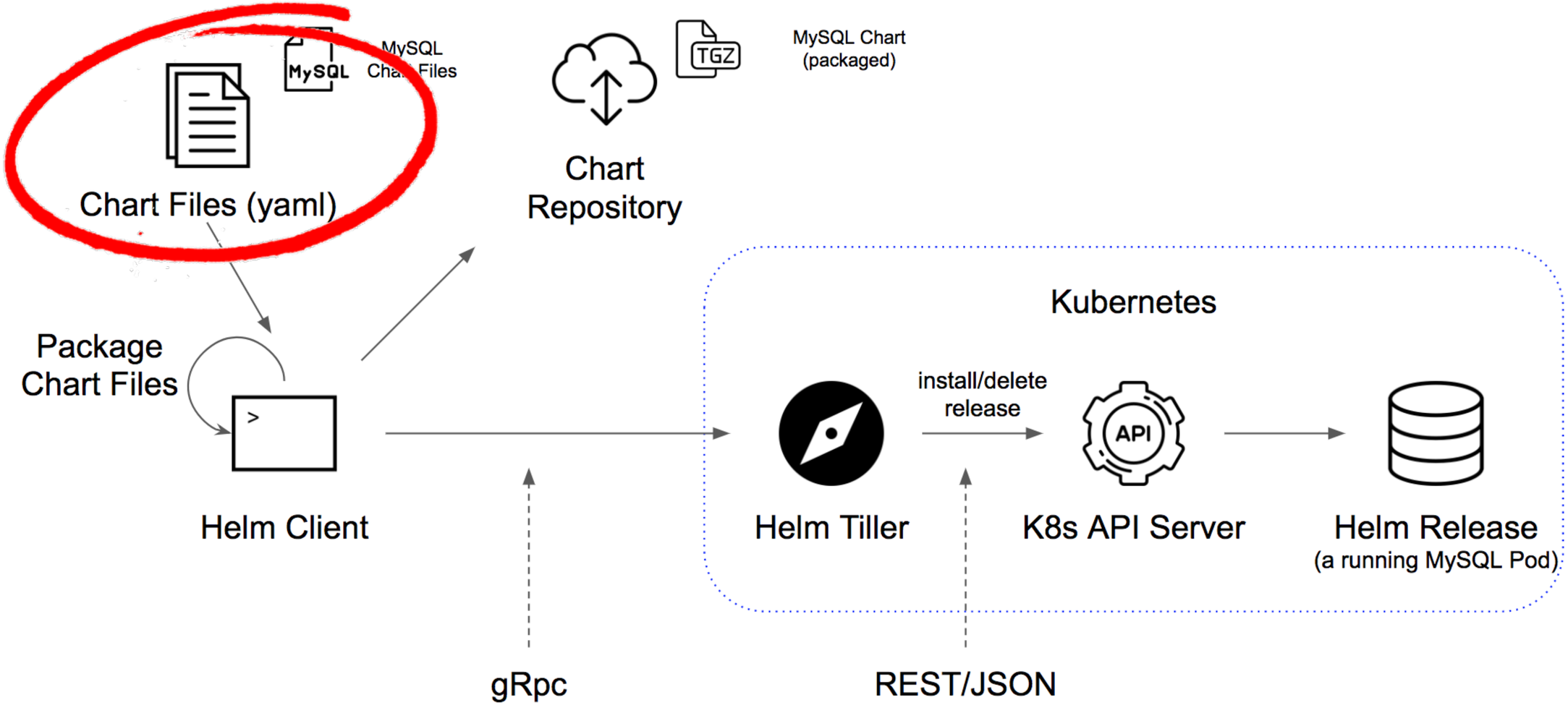
BUT I JUST WANT TO DEPLOY KAFKA

WORKLOADS DEPLOYMENT

HELM CHARTS


MySQL
MySQL Chart Files
TGZ
MySQL Chart (packaged)
Chart Files (yaml)
Chart Repository
Package Chart Files
>
Helm Client
Kubernetes
install/delete release
API
Helm Tiller
K8s API Server
Helm Release
(a running MySQL Pod)
gRpc
REST/JSON

HELM CHARTS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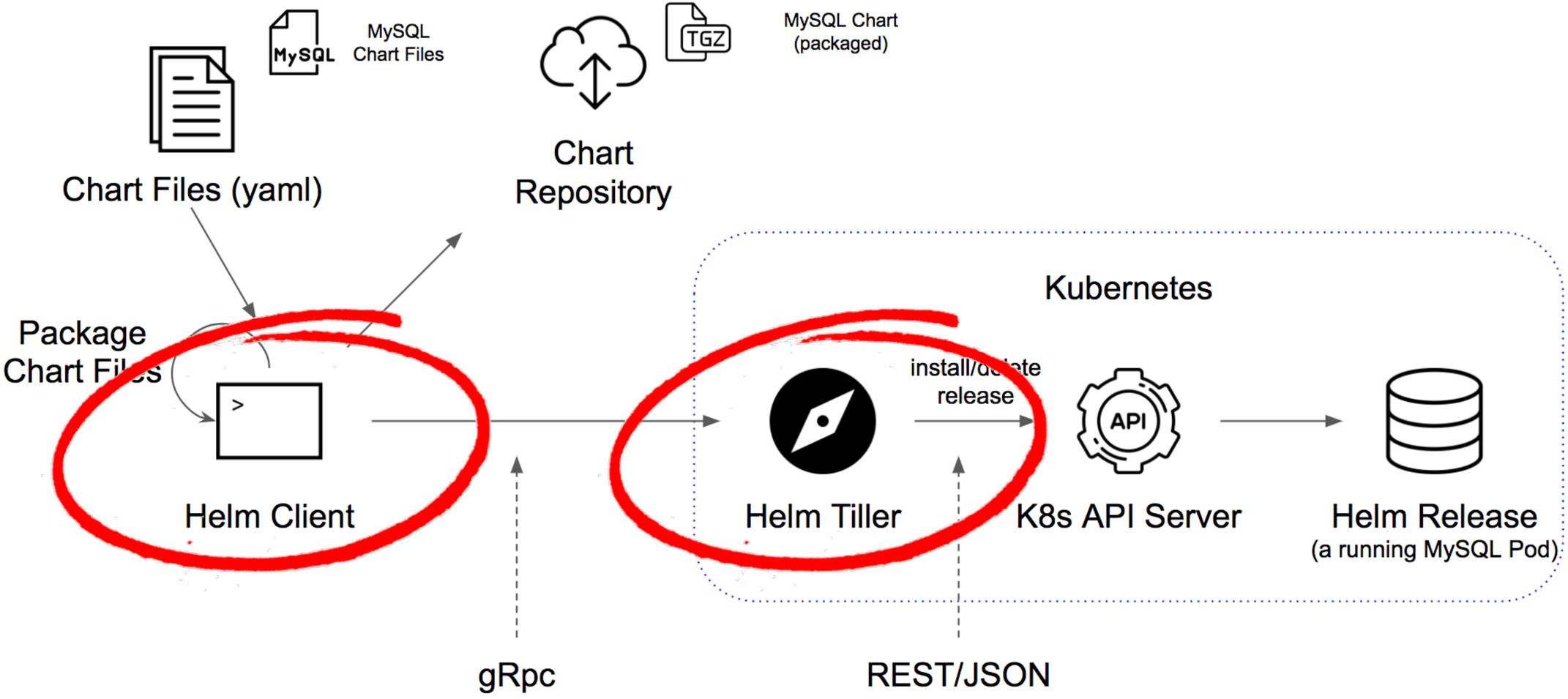
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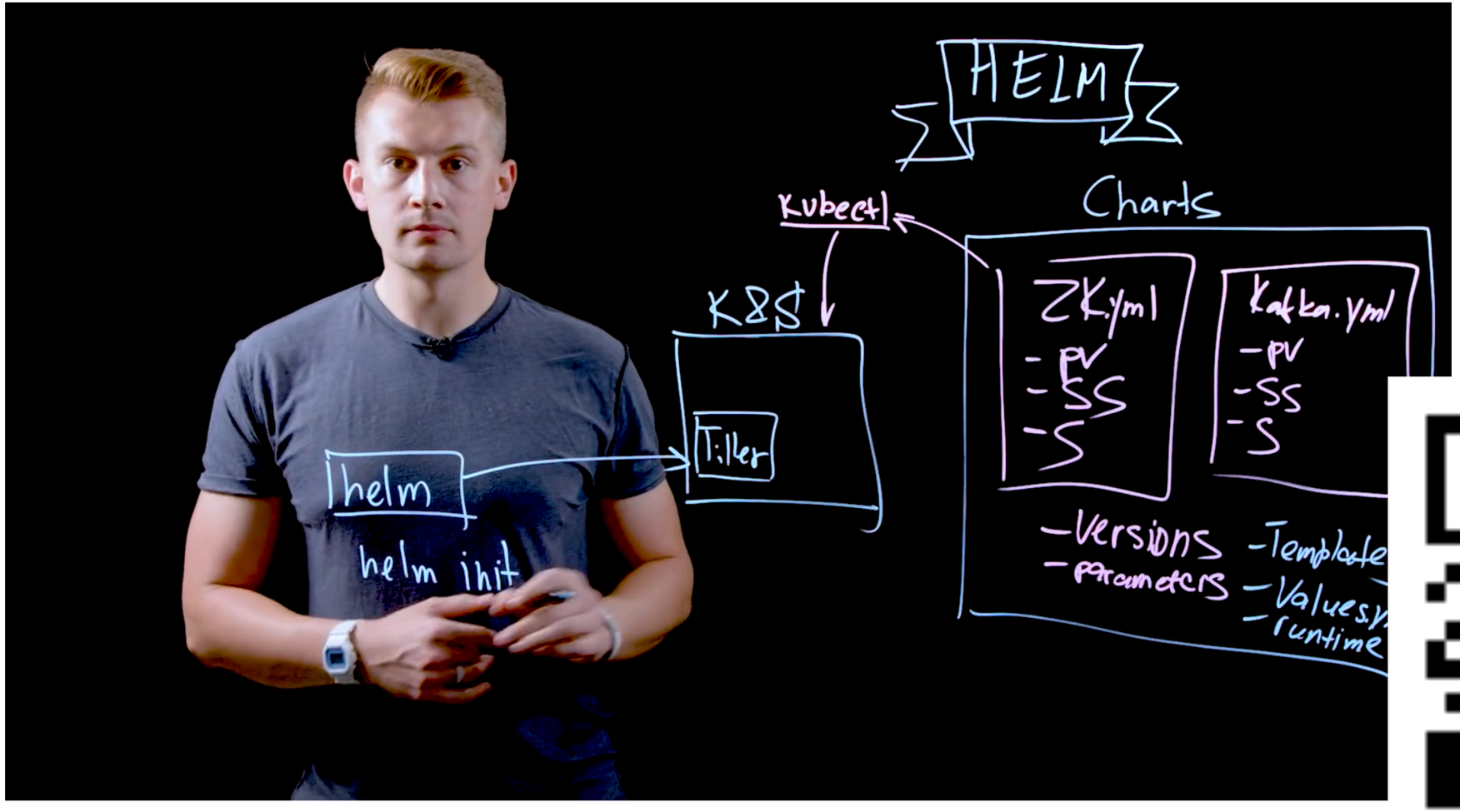


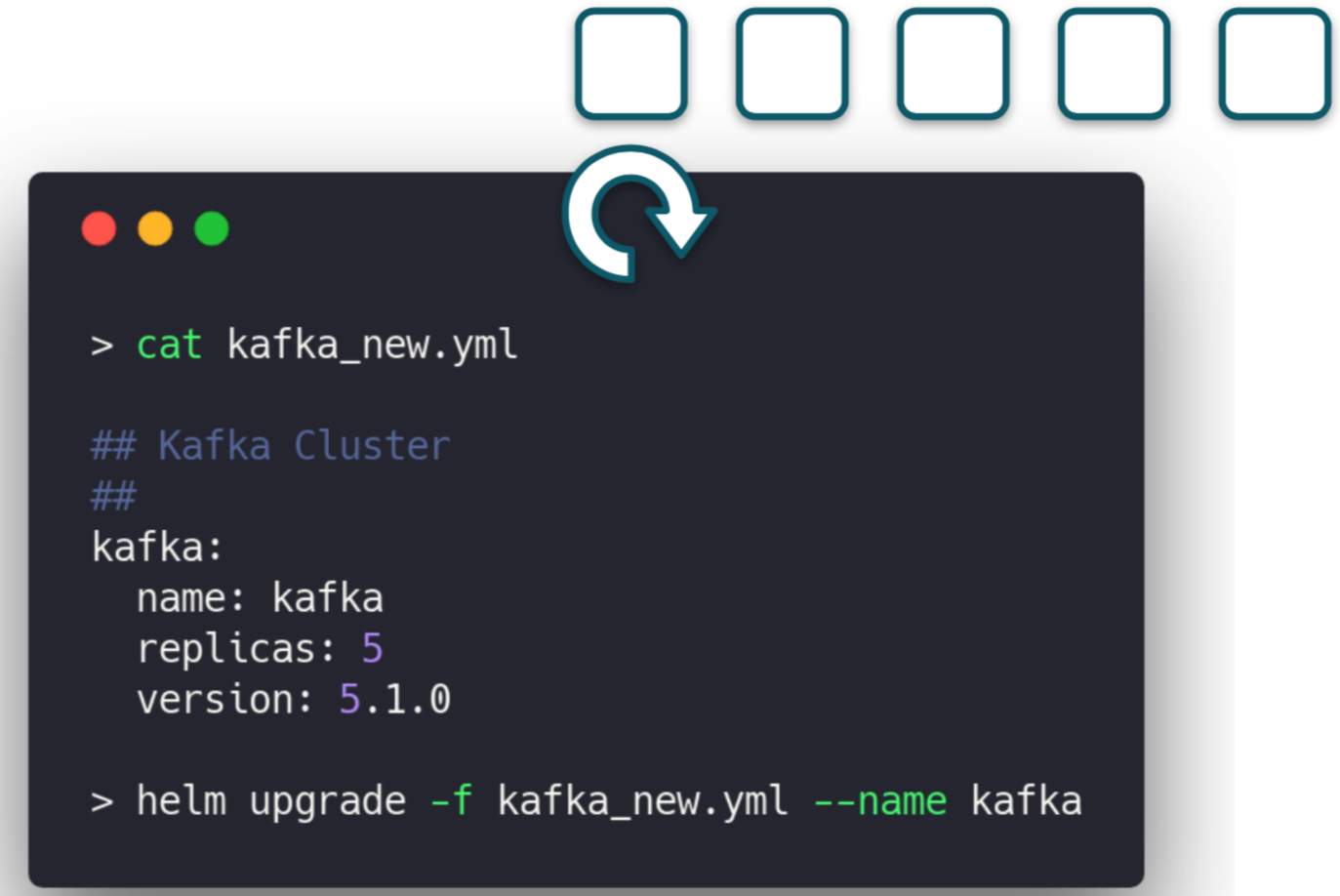
https://cnfl.io/helm_video

Helm Charts is just a **GO Templates.**
How Charts help with rolling update?

ROLLING UPGRADE

Kafka Broker Upgrades:

1. Stop the broker, upgrade Kafka
2. Wait for Partition Leader reassignment
3. Start the upgraded broker
4. Wait for zero under-replicated partitions
5. Upgrade the next broker



```
> cat kafka_new.yml

## Kafka Cluster
##
kafka:
  name: kafka
  replicas: 5
  version: 5.1.0

> helm upgrade -f kafka_new.yml --name kafka
```

We will use
StatefulSets
with OrderedReady

We need **SRE / Operator** knowledge to manage the platform. You need **Operator!**

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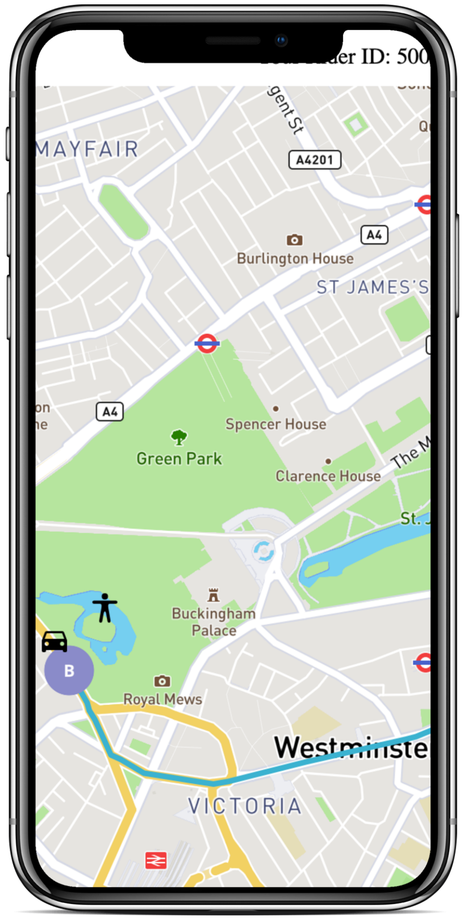
Show me your
Operator

KLYFFT - KAFKA APP ON KUBERNETES



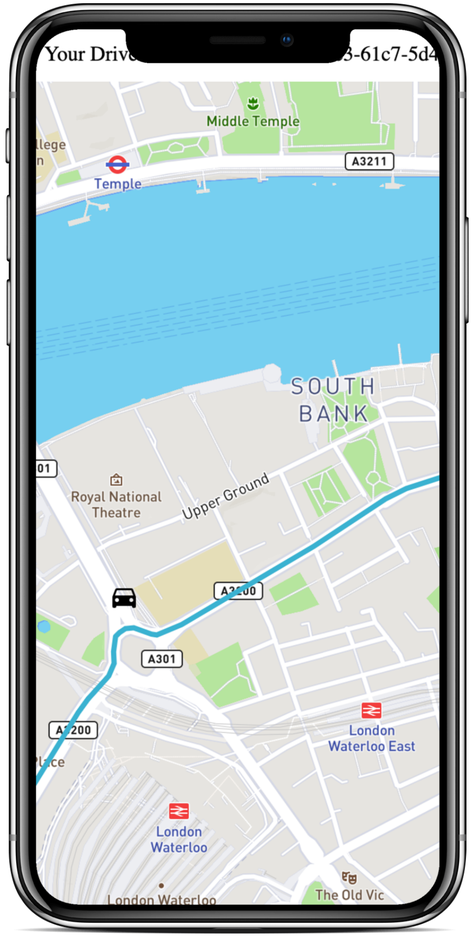
Rider

2 Web Apps powered by a microservice each

Apps are a ride sharing driver and rider location tracking

Rider hails a ride and the driver drives towards the rider

Real time location events powered by Kafka on Kubernetes



Driver

DEMO

DO KAFKA ON KUBERNETES DEMO
AND EVERYONE LOOSES THEIR MIND

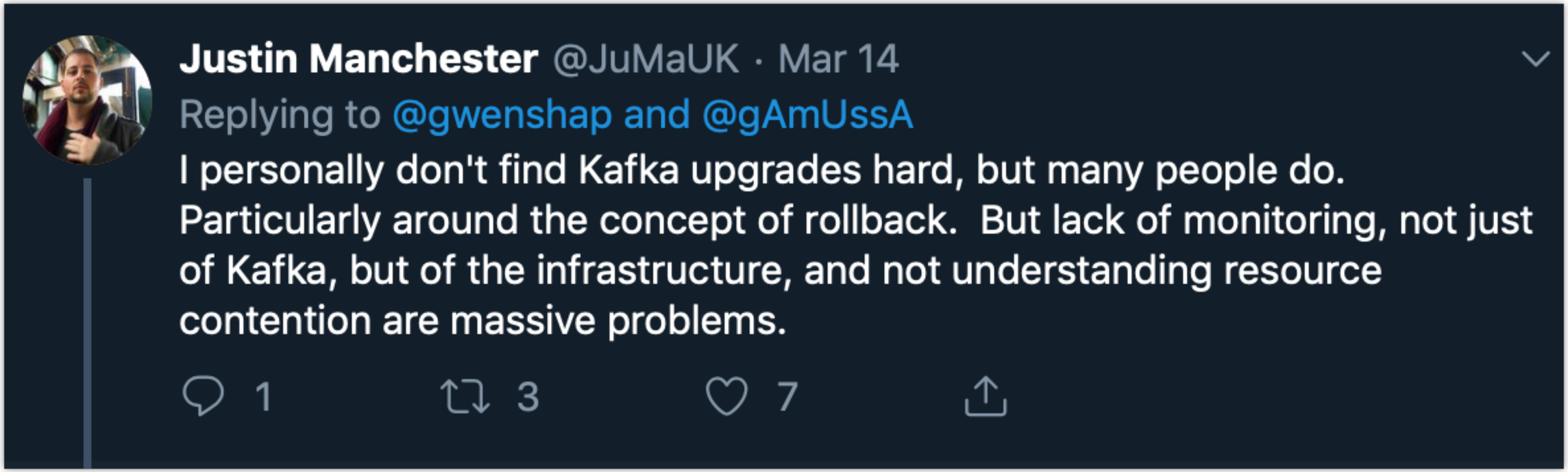
CONFLUENT OPERATOR - AUTOMATED SECURITY CONFIGURATION

SASL PLAIN and Mutual TLS Authentication

Automate configuration of truststores and keystores with secret objects

Automate configuration of Kafka and all Confluent Platform Components

BE LIKE JUSTIN!



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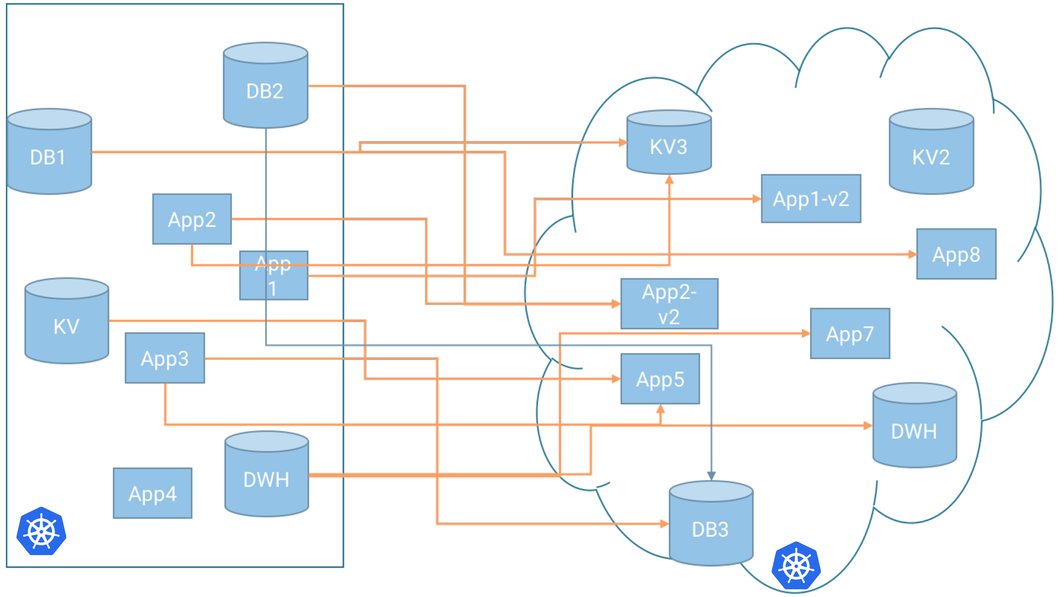
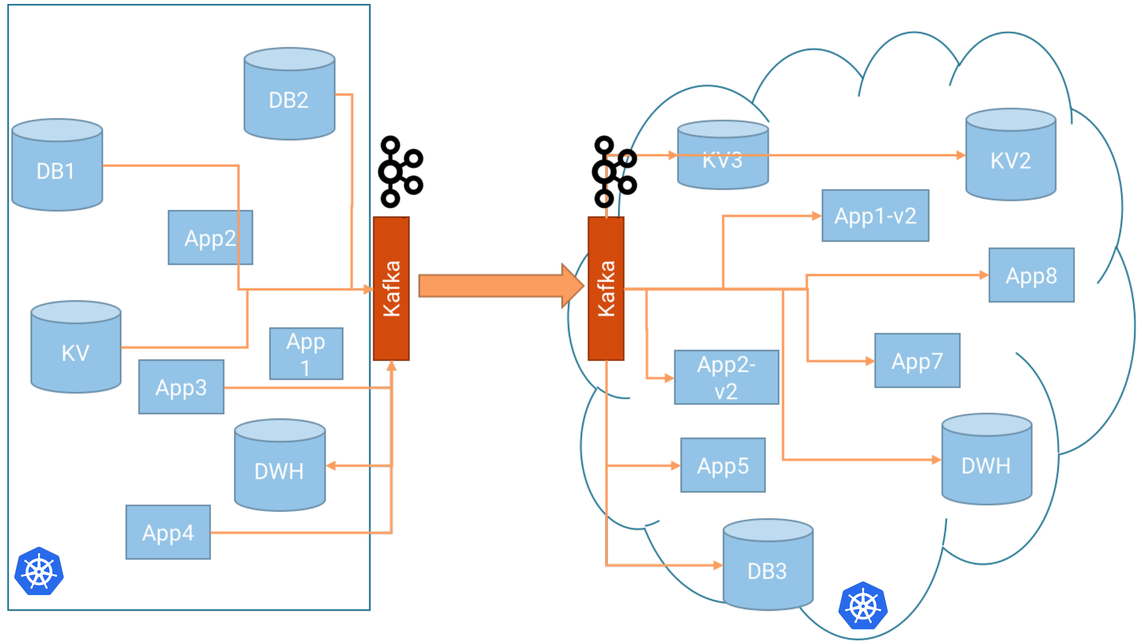
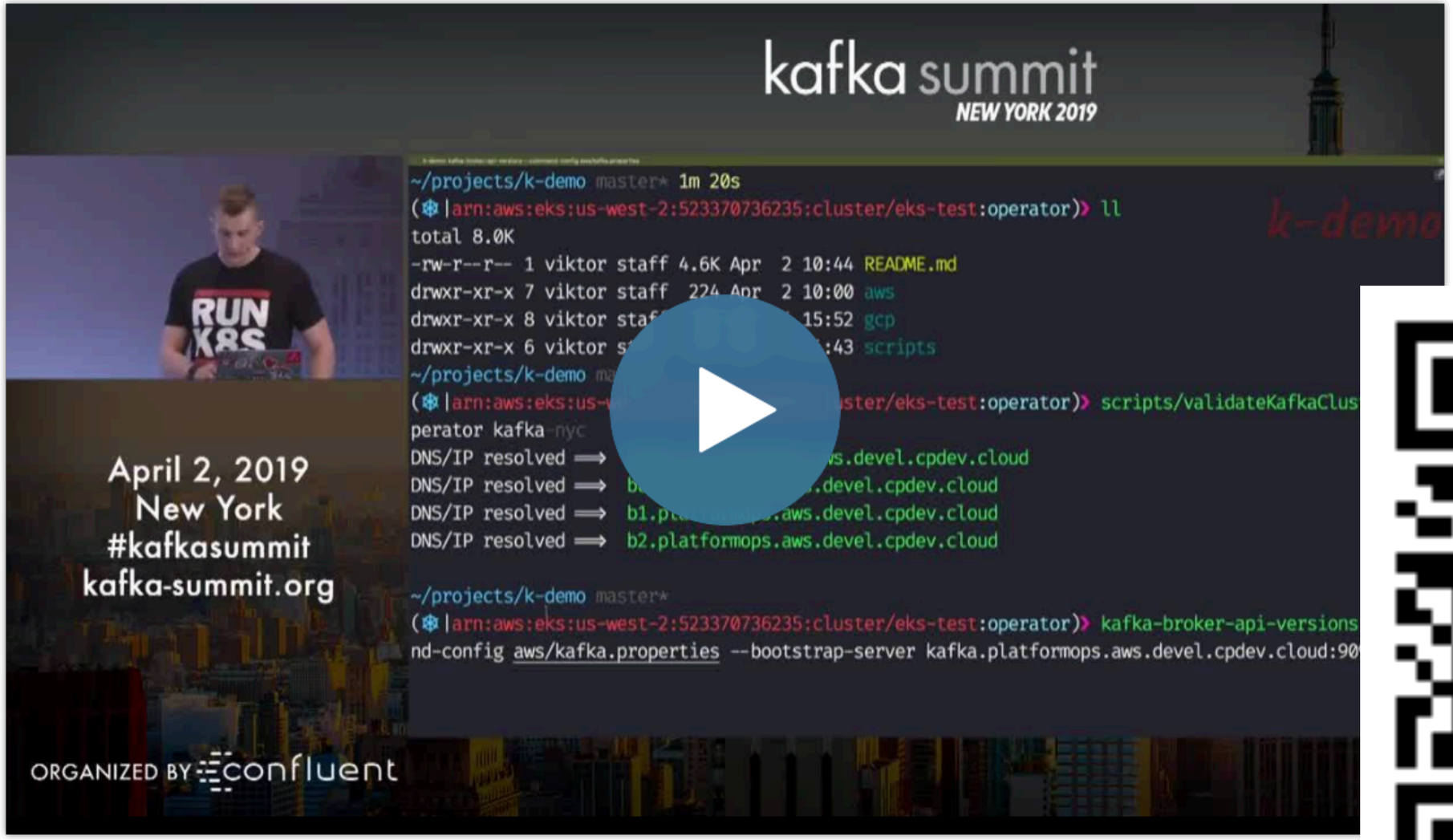
WANT TO SEE ADVANCED DEPLOYMENT?



vs.





http://gamov.dev/ksummit_nyc19_k8s

GA PLANS

- We are in private Preview Release is over!
- 24 customers testing the Operator in Preview:
- Global customers
- Banks, Fin Tech, Retailers, Consumer Tech
- We are in the final stages of Preview and about to launch soon

THANKS!

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viktor@confluent.io

https://slackpass.io/confluentcommunity
#kubernetes

confluent